

FIG. 1


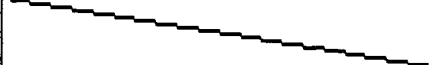
| Sequence   | MB DNA (%) | EC DNA (%) | fold (MB/EC) |
|--|------------|------------|--------------|
| GGCGCC=  | 0.1462     | 0.0020     | 73.12        |
| GCCGGC=  | 0.2317     | 0.0062     | 37.19        |
| GTCGAC=  | 0.0990     | 0.0116     | 8.56         |
| CTCGAG=  | 0.0299     | 0.0038     | 7.96         |
| CCCGGG=  | 0.0645     | 0.0091     | 7.13         |
| CACGTG=  | 0.0205     | 0.0030     | 6.74         |
| CCCAG=   | 0.0451     | 0.0069     | 6.58         |
| CTCGGG=  | 0.0392     | 0.0068     | 5.75         |
| GCCGAC=  | 0.1435     | 0.0297     | 4.83         |
| GTCGGC=  | 0.1400     | 0.0295     | 4.74         |
| CTCGGC=  | 0.1021     | 0.0217     | 4.71         |
| GCCGAG=  | 0.1000     | 0.0218     | 4.58         |
| GACGAG=  | 0.0493     | 0.0120     | 4.10         |
| GCCGCG=  | 0.1781     | 0.0435     | 4.09         |
| GACGTC=  | 0.0619     | 0.0151     | 4.09         |
| GTCGAG=  | 0.0677     | 0.0166     | 4.08         |
| GTCGTC=  | 0.0755     | 0.0192     | 3.93         |
| CTCGAC=  | 0.0643     | 0.0165     | 3.90         |
| CCCGAC=  | 0.0676     | 0.0175     | 3.86         |
| CTCGTC=  | 0.0501     | 0.0130     | 3.86         |
| CGCGGC=  | 0.1751     | 0.0455     | 3.85         |
| GTCGGG=  | 0.0627     | 0.0165     | 3.79         |
| TCCGAG=  | 0.0203     | 0.0054     | 3.78         |
| GACGAC=  | 0.0747     | 0.0199     | 3.76         |
| CTCGGA=  | 0.0202     | 0.0054     | 3.73         |
| GCCGCC=  | 0.2336     | 0.0654     | 3.58         |
| GCCGTC=  | 0.1008     | 0.0296     | 3.41         |
| GGCGGC=  | 0.2237     | 0.0662     | 3.38         |
| GCCGGT=  | 0.1302     | 0.0402     | 3.24         |
| CCCGGC=  | 0.1183     | 0.0365     | 3.24         |
| GACGGC=  | 0.1033     | 0.0327     | 3.16         |
| CCCGCG=  | 0.0824     | 0.0263     | 3.13         |
| GCCGGG=  | 0.1165     | 0.0373     | 3.13         |
| CGCGGG=  | 0.0849     | 0.0273     | 3.11         |
| ACCGGC=  | 0.1242     | 0.0405     | 3.07         |
| GGCGGG=  | 0.0982     | 0.0323     | 3.04         |
| CCCGCC=  | 0.0995     | 0.0329     | 3.02         |
| CGCGGT=  | 0.1117     | 0.0372     | 3.00         |
| ACCGCG=  | 0.1090     | 0.0368     | 2.97         |
| ACCGAG=  | 0.0511     | 0.0175     | 2.92         |
| GTCGGA=  | 0.0331     | 0.0118     | 2.80         |
| GGCGAC=  | 0.1005     | 0.0360     | 2.80         |
| CTCGGT=  | 0.0494     | 0.0178     | 2.78         |
| GTCGCC=  | 0.1056     | 0.0383     | 2.76         |
| GTCGCG=  | 0.0884     | 0.0323     | 2.74         |
| CACGTC=  | 0.0430     | 0.0158     | 2.73         |
| TCCGAC=  | 0.0326     | 0.0121     | 2.70         |
| CGCGAC=  | 0.0852     | 0.0320     | 2.66         |
|  |            |            |              |
| Average  | 0.0498     | 0.0288     |              |
| Sum  | 12.7440    | 7.3665     |              |

FIG. 2

a)

MB-ODN 4/5 (-CGXXCGXXCG-)

| No.   | Sequence             | Score |
|---|----------------------|-------|
| 1   | CTCCAqGGGqGCAqGCCA   | 11811 |
| 2   | TGTCTeqGGGqGCAqGTTG  | 11773 |
| 3   | CAAGGqGTeqGCTeqATGG  | 11538 |
| 4   | AACTGqGAAqTGGqGCAG   | 10931 |
| 5   | GTCAGqGAAqTGGqGCTC   | 10829 |
| 6   | AAAGGqTGGqGGTqGCCC   | 10697 |
| 7   | CTCAGqGGGqGCAqTGCA   | 10670 |
| 8   | CACAAqGGGqCCTeqGCTT  | 10319 |
| 9   | ATGAAqGGGqGCTeqAGCC  | 10240 |
| 10  | GATGGqATeqGCAqCCCA   | 10199 |
| 11  | CAGCAqTGGqTGGqGCAT   | 9962  |
| 12  | GCTGGqGGGqAGGqATTG   | 9855  |
| 13  | TGTTGqGTeqGCTeqGCAG  | 9839  |
| 14  | GGTGGqGTeqAGGqCTCT   | 9728  |
| 15  | GGTGGqCAeqCCTeqGCCC  | 9259  |
| 16  | GGGGGqGTeqCCTeqCTAA  | 9250  |
| 17  | GACATeqGTeqGCAqTCAG  | 9098  |
| 18  | CCAGTeqGGGqGGGqCTGG  | 9022  |
| 19  | TCGGGqGTeqAAGqGCCC   | 8953  |
| 20  | CAACTeqATeqGGGqCCCA  | 8878  |
| 21  | TTTGGqGTeqGTGqCAGC   | 8869  |
| 22  | CCAGGqGTeqGTGqCAGG   | 8869  |
| 23  | CTCCTeqGTeqAGGqGTGG  | 8844  |
| 24  | ACCATeqGGGqCCAqTCTC  | 8780  |
| 25  | CAACAqATeqTGTeqGCTG  | 8615  |
|  |                      |       |
| 338   | GTGTTeqAAeqCTAeqAACC | 1681  |
| 334   | AAGTAeqAAeqATGqAGAA  | 1637  |
| 335   | ACTAGeqTReqCAGeqAATC | 1539  |

b)

MB-ODN 5/5 (-CGXXXCGXXXCG-)


| No.  | Sequence             | Score |
|--|----------------------|-------|
| 1  | TGCTeqTGGqGCTeqGCAG  | 12868 |
| 2  | GAGGqGGCTeqGTGqGGTC  | 12599 |
| 3  | TTGGqGGCAqCAAqCCTC   | 11345 |
| 4  | GAAeqTTGqGGGqGCCC    | 11280 |
| 5  | AAGGqTGGqGCTeqTGGG   | 11258 |
| 6  | CAGGqATGqCCTeqGCTC   | 10614 |
| 7  | GTTGqGGGqAGTeqGCAT   | 10297 |
| 8  | GGGGqGGTeqACTeqACCA  | 10243 |
| 9  | TGGTqGGGqGGTeqACTC   | 10153 |
| 10   | ATCAeqCTAeqGGGqGCCA  | 10063 |
| 11   | GTGGqCCeqAGTeqACAT   | 10059 |
| 12   | AAGGqGGCTeqCATeqATGG | 10036 |
| 13   | GAGGqGGGqGGTeqATCT   | 9743  |
| 14   | AATTeqTGGqGCTeqTGCA  | 9712  |
| 15   | CAGGqGTGqGTGqGCAT    | 9657  |
| 16   | TAGGqCTTeqAGTeqGCAC  | 9655  |
| 17   | GTGAeqTCAeqGGTeqGCAG | 9390  |
| 18   | GCTTeqAGTeqGCAeqCCAG | 9269  |
| 19   | GTGTeqGGGqAGGqACCA   | 9164  |
| 20   | TTGGqTTGqTGTeqGCCT   | 9034  |
| 21   | TCATeqATGqGGGqCCAC   | 8959  |
| 22   | GAGGqGGGqGGGqGAGA    | 8873  |
| 23   | TAGGqATGqCAGeqCCTG   | 8845  |
| 24   | CAGGqGTGqGCAeqCAGT   | 8703  |
| 25   | CTGAeqCCTeqGCTeqAGCT | 8642  |
|  |                      |       |
| 352  | ATTReqCTGqAAAeqCAGT  | 1807  |
| 353  | TAATeqGAAeqTAAeqATCC | 1713  |
| 354  | CATGeqTAAeqTTAeqGAAA | 1219  |

FIG. 3

a)

MB-ODN 4/5 (-CGXXCGXXCG-)

| ODN          | Sequence               |
|--------------|------------------------|
| MB-ODN4/5-1  | CCACTCGGCGGGCGGCTGC    |
| MB-ODN4/5-2  | GCTCGGCGGCGGCGGATTC    |
| MB-ODN4/5-3  | ACCAAGCGGCGGAGTCCGCTC  |
| MB-ODN4/5-4  | GCTCGGCGGCGGCTGCGCATC  |
| MB-ODN4/5-5  | GGCAAGCGGCGGATCGCCAC   |
| MB-ODN4/5-6  | CTTCGCGGCGGCTGCCAAC    |
| MB-ODN4/5-7  | AACTGCGGCGGCTGCGGCGAC  |
| MB-ODN4/5-8  | GCTCAGCGGCGGATCGATTC   |
| MB-ODN4/5-9  | TTTCGCGGCTCGGTCGCGAC   |
| MB-ODN4/5-10 | GCTCGGCGGCGGCGGCTCT    |
| MB-ODN4/5-11 | GCTCGGCGGCGGCGGCTCT    |
| MB-ODN4/5-12 | TTTCGCGGCGGCAACGAAAA   |
| MB-ODN4/5-13 | CATGTCGAGCGGATCGGCGC   |
| MB-ODN4/5-14 | TTGCTCGAGCGGTTCCGCA    |
| MB-ODN4/5-15 | TTGCTCGAGCGGCTCGGCGC   |
| MB-ODN4/5-16 | AGCATTCAGCGGCGGCTGCT   |
| MB-ODN4/5-17 | GGCAAGCGGCGGCAACGAC    |
| MB-ODN4/5-18 | CTCATTCAGCGGCGGCGAC    |
| MB-ODN4/5-19 | ATGCTTCAGCGGCTCGGCGC   |
| MB-ODN4/5-20 | GGCTTCGAAAGCGGCTCGAGG  |
| MB-ODN4/5-21 | CATGCGGAAAGCGGAGCTCAT  |
| MB-ODN4/5-22 | CTTCGAAAGCTTCGCGGCA    |
| MB-ODN4/5-23 | CAGATTCGAAAGCTTCGACAC  |
| MB-ODN4/5-24 | CAGTTCGATTCGACGACCC    |
| MB-ODN4/5-25 | GTAGCGGATTCGATCGGCGAA  |
| MB-ODN4/5-26 | CAACAGGATTCGATCGGCTC   |
| MB-ODN4/5-27 | CTAGCGGATTCGAAACGAACT  |
| MB-ODN4/5-28 | CCACAGGATTCGACAGCTGC   |
| MB-ODN4/5-29 | GGCAAGCTTCGTCGACGACTT  |
| MB-ODN4/5-30 | TAAAGCGGTCGCGATCGATAT  |
| MB-ODN4/5-31 | AGCAGCGTTCGCTCGGCGCT   |
| MB-ODN4/5-32 | TGTTGCGGCGGCTCGGCTGC   |
| MB-ODN4/5-33 | CTGCGGCGGCGGCGGCTGC    |
| MB-ODN4/5-34 | GGCAAGCGGCGGCGGCGAAC   |
| MB-ODN4/5-35 | GCAAGCGGCTTCGTCAGGCGCC |

b)

MB-ODN 5/5 (-CGXXXCGXXXCG-)

| ODN          | Sequence               |
|--------------|------------------------|
| MB-ODN5/5-1  | CATCGGATTCGTCGCGCTGC   |
| MB-ODN5/5-2  | CAGCGGCTCGGCAACGCGCTC  |
| MB-ODN5/5-3  | CATCGGCTCGGATCGGCAAA   |
| MB-ODN5/5-4  | CAGCGGCTCGGCAAGCTGCT   |
| MB-ODN5/5-5  | CGAGCGGCTCGACACGACAA   |
| MB-ODN5/5-6  | TGCTCGAGGCGCTTCGCGGAC  |
| MB-ODN5/5-7  | ACAGCGGCTCGGCTCGGCGAC  |
| MB-ODN5/5-8  | TAGCGGCAAGCGATCGGCGCC  |
| MB-ODN5/5-9  | TCAAGCAAGCGGTCGCGGCA   |
| MB-ODN5/5-10 | ATCTCGAAAGCGGTCGAGGCG  |
| MB-ODN5/5-11 | CGGTCGAAATCGCTCGGCGCTC |
| MB-ODN5/5-12 | TAGCGGATTCGCGAGCGGCTC  |
| MB-ODN5/5-13 | ATCGCGATTCGCTCGGCGCTC  |
| MB-ODN5/5-14 | CGGTCGACAGCGTTCGATTC   |
| MB-ODN5/5-15 | TGCTCGTTCGCGCTCGGCGAC  |
| MB-ODN5/5-16 | CCAGCGTTCGCGATCGGCGGCA |
| MB-ODN5/5-17 | GCATCGTTCGCGGCGGCGCATC |
| MB-ODN5/5-18 | TGCAAGCTTCCTGACGCGGCG  |
| MB-ODN5/5-19 | CTGCGGATTCGCGCTCGGCGCT |
| MB-ODN5/5-20 | TTCGCGCTTCGCTCGGCGCT   |
| MB-ODN5/5-21 | AAATCGCTTCGCGGCGGCGAT  |
| MB-ODN5/5-22 | ATCAGCTTCGCGGCGGCGGCTC |
| MB-ODN5/5-23 | AAATCGCTTCGAGCGGCTTC   |
| MB-ODN5/5-24 | CTGCGGCAAGCTTCGCGGCTC  |
| MB-ODN5/5-25 | TGCGCGCAAGCGGCGGCGAT   |
| MB-ODN5/5-26 | TCTCGGCAAGCGGATCGTTCA  |
| MB-ODN5/5-27 | TGCGCGCAAGCTTACGAACT   |
| MB-ODN5/5-28 | CGCTCGCAAGCGGATCGGCTC  |
| MB-ODN5/5-29 | TTCGCGCAAGCGGATCGGCA   |
| MB-ODN5/5-30 | CGAGCGCAAGCTTCGCGCATC  |
| MB-ODN5/5-31 | ACCAAGCATTCGCGATCGAGCA |
| MB-ODN5/5-32 | AGCAGCGTTCGCGGCTTCGAC  |
| MB-ODN5/5-33 | ACTCGGCTTCGCGGCGGCGCC  |
| MB-ODN5/5-34 | CTCTCGCTTCGCGGCGGCGCT  |
| MB-ODN5/5-35 | CGGAGCGTTCGCTCGGCTC    |
| MB-ODN5/5-36 | CTGAGCGCTTCGCTCGGCTC   |

FIG. 4

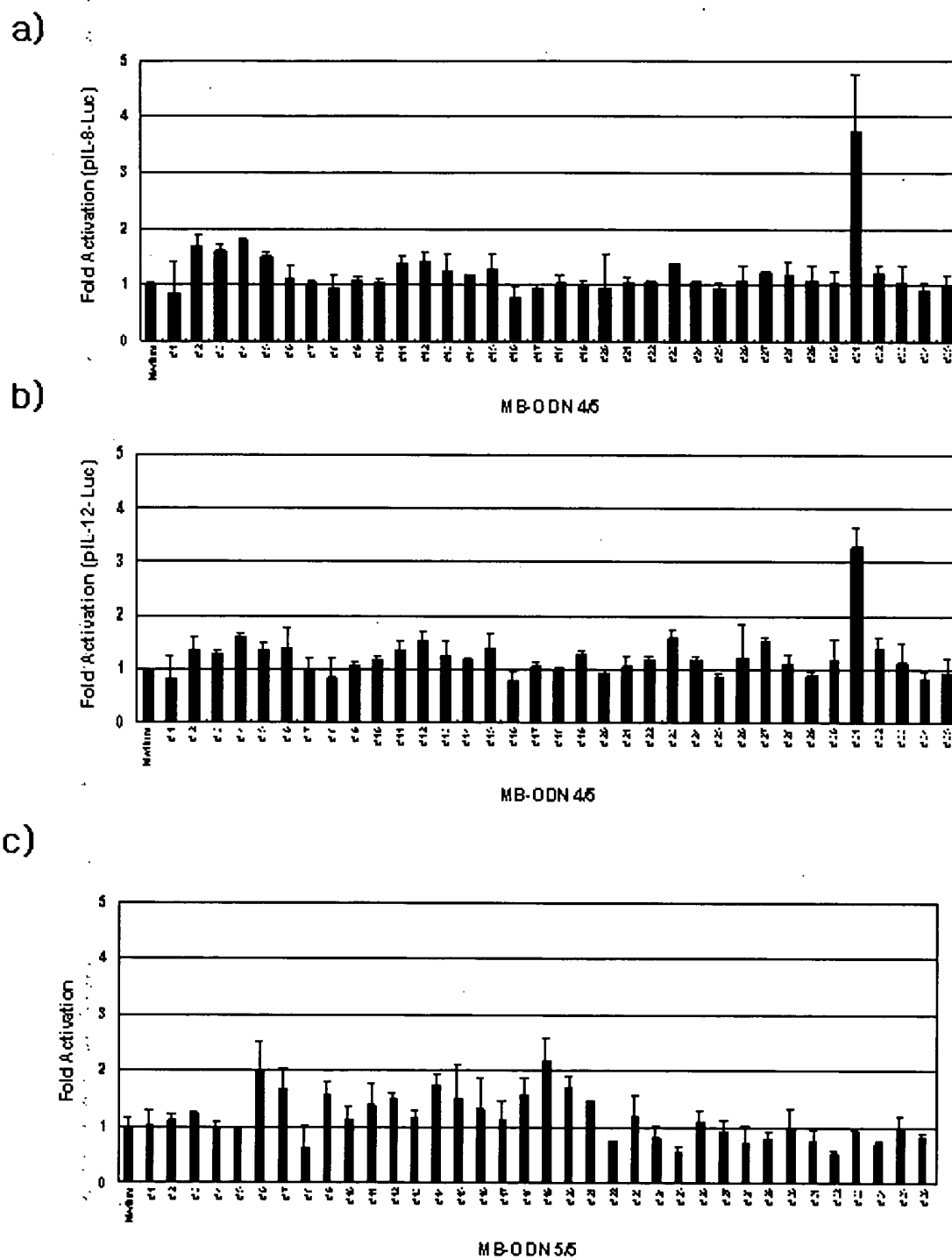


FIG. 5

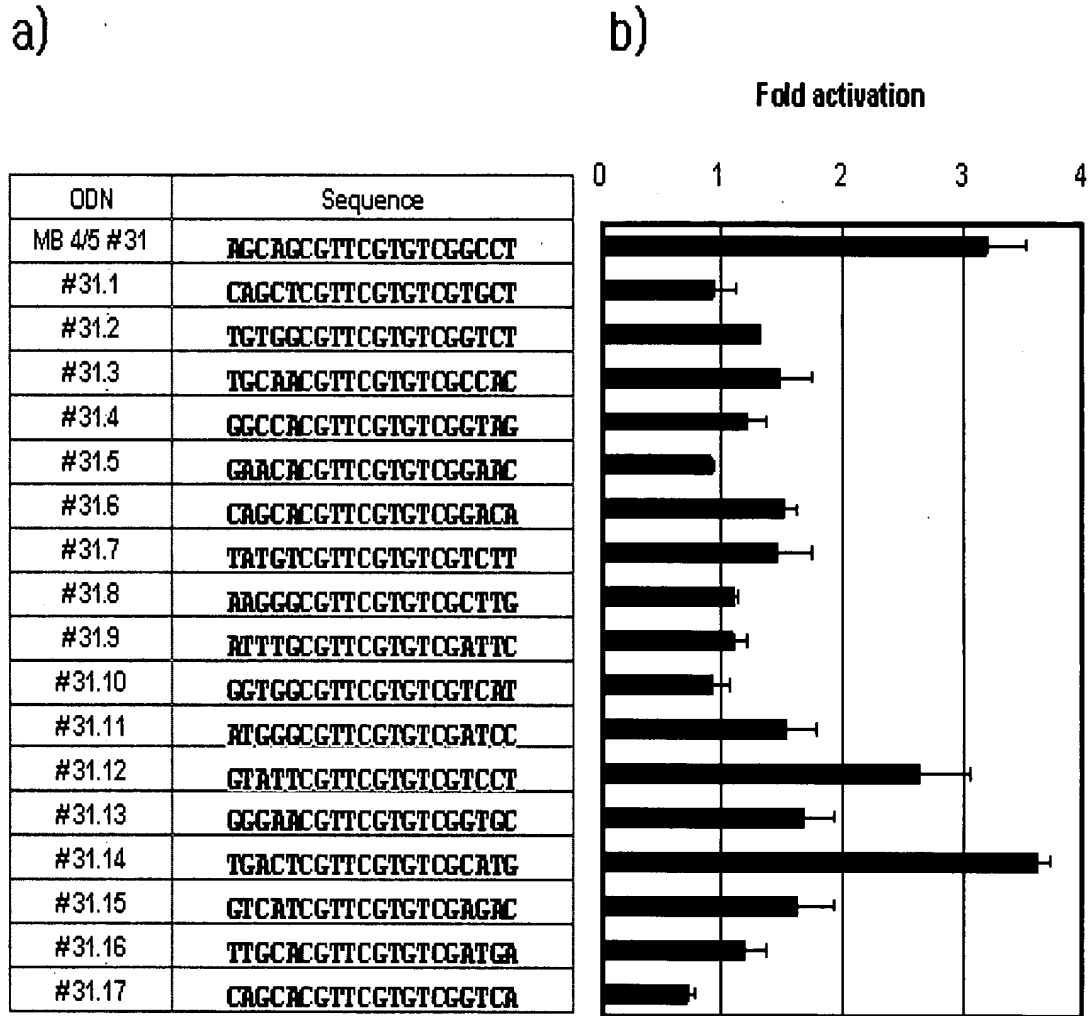


FIG. 6

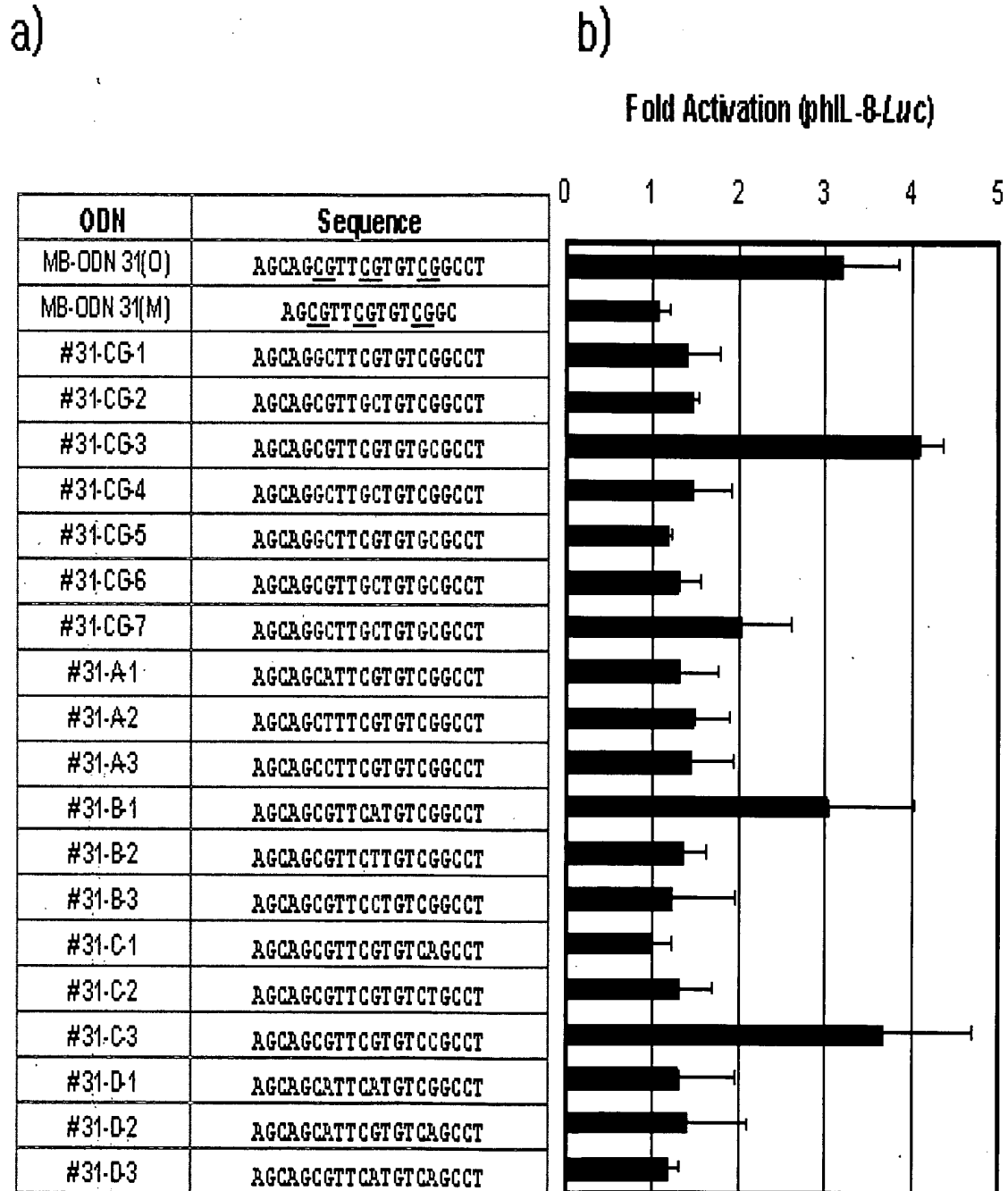


FIG. 7

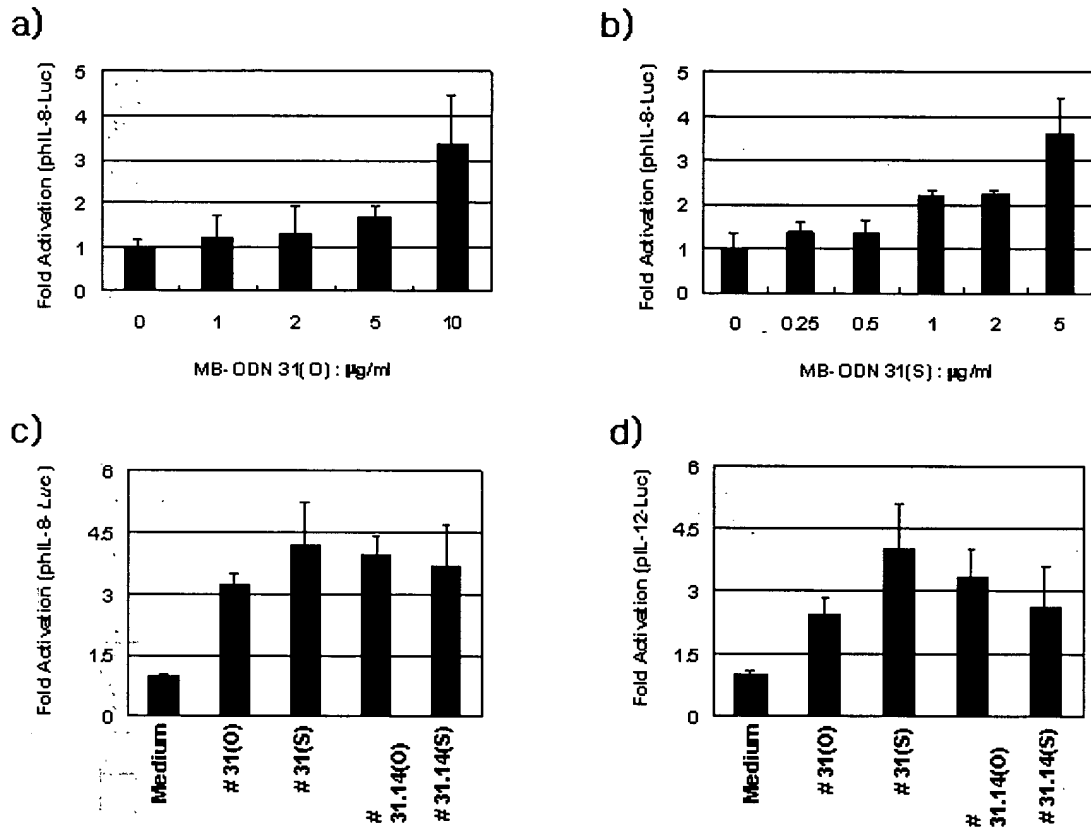
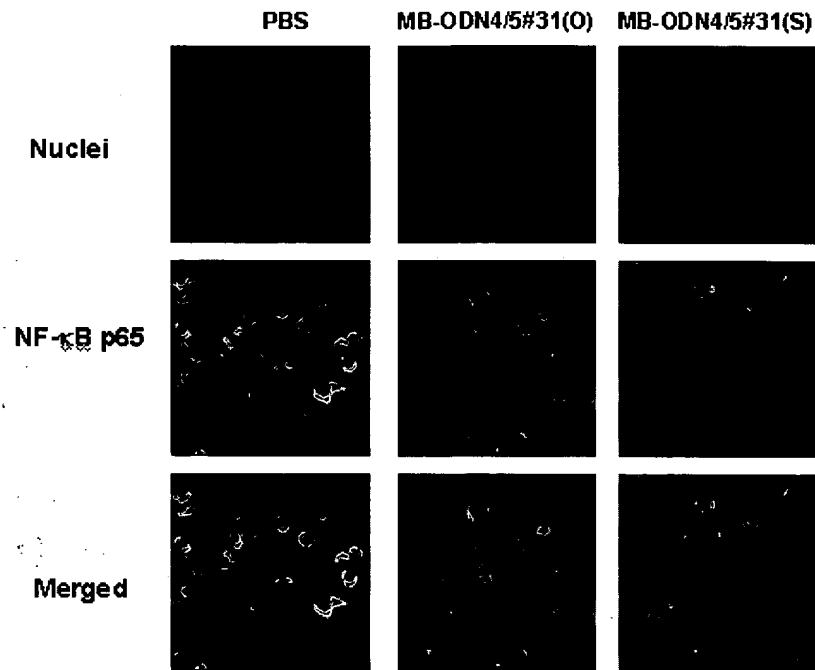


FIG. 8

a)



b)

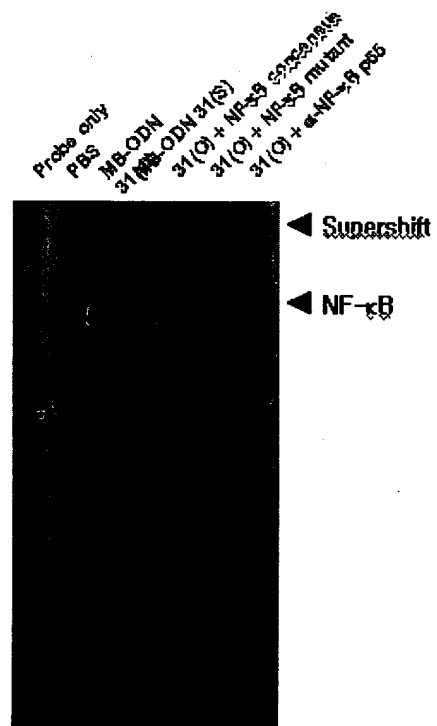




FIG. 9

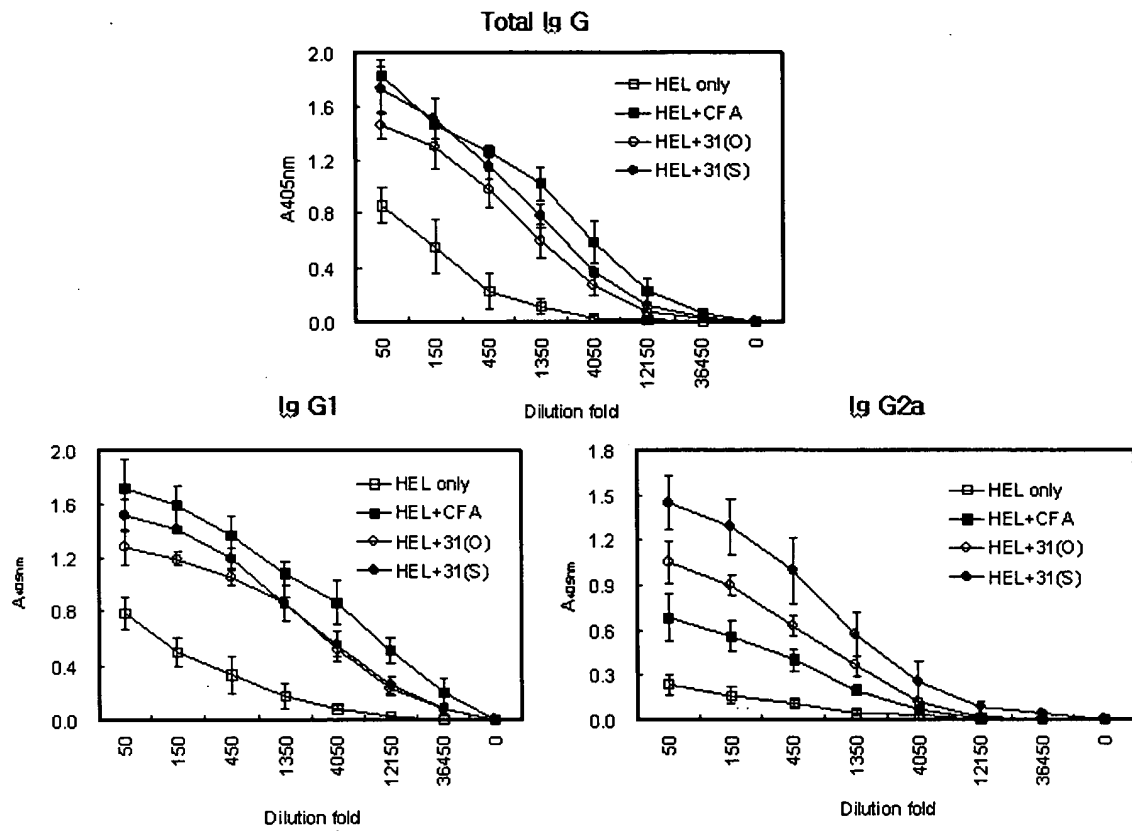


FIG. 10

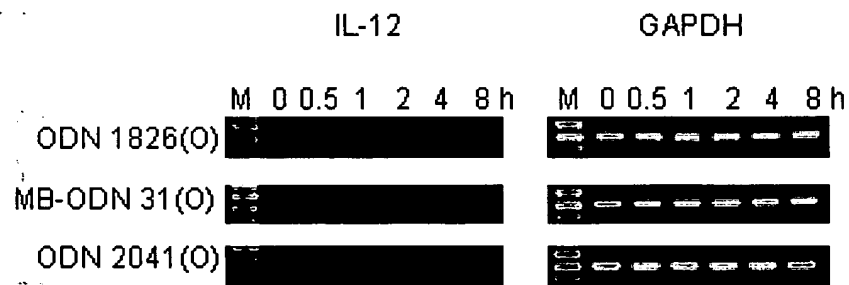


FIG. 11

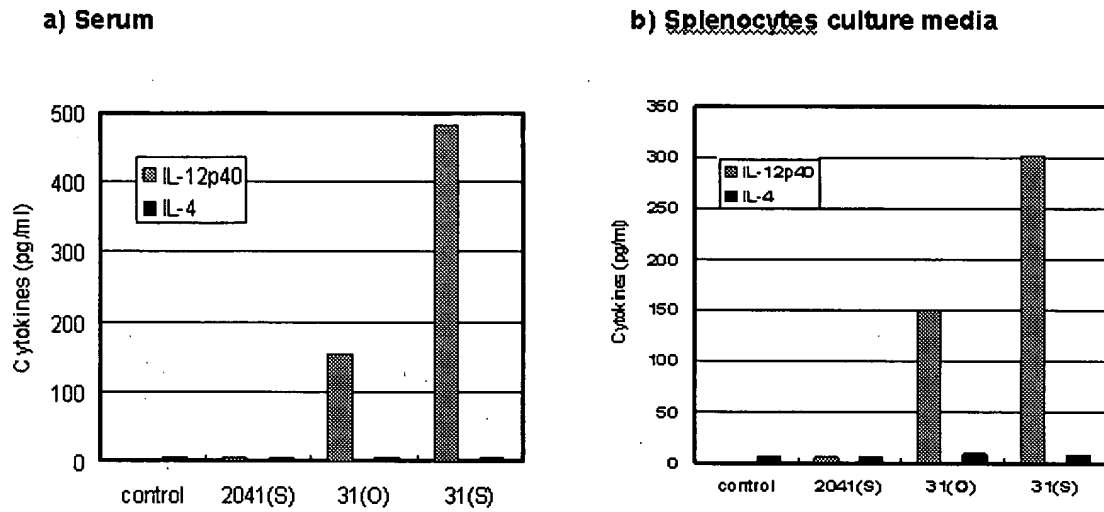


FIG. 12

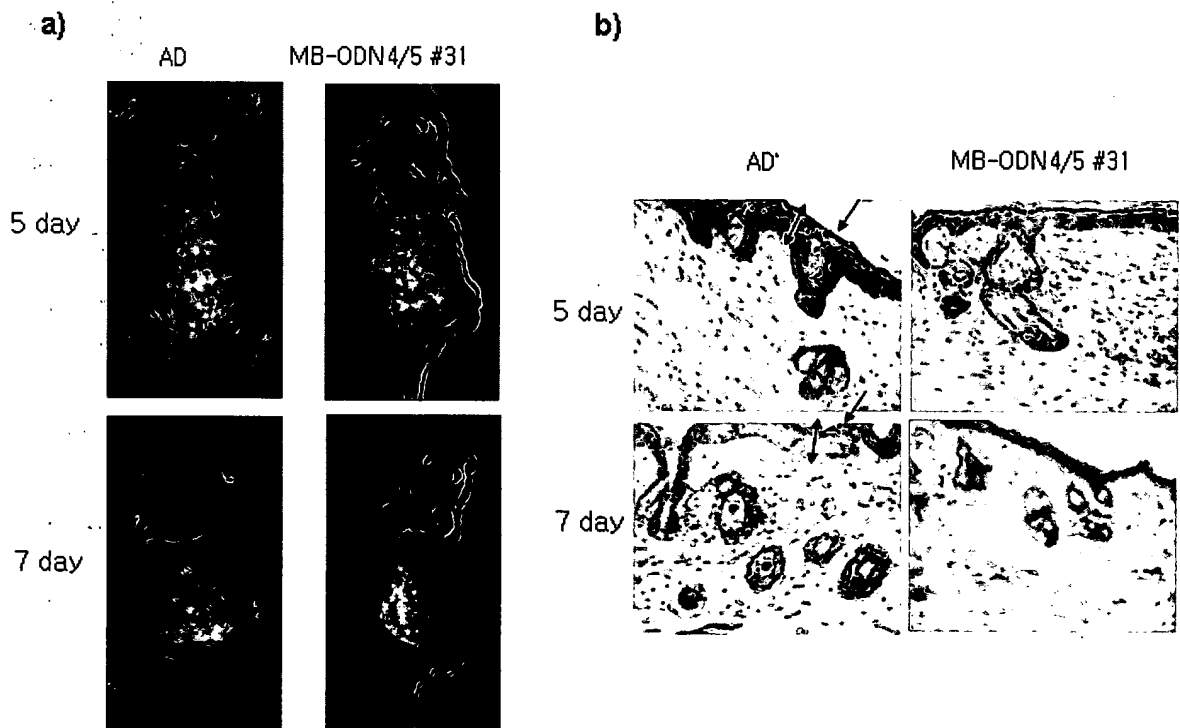


FIG. 13

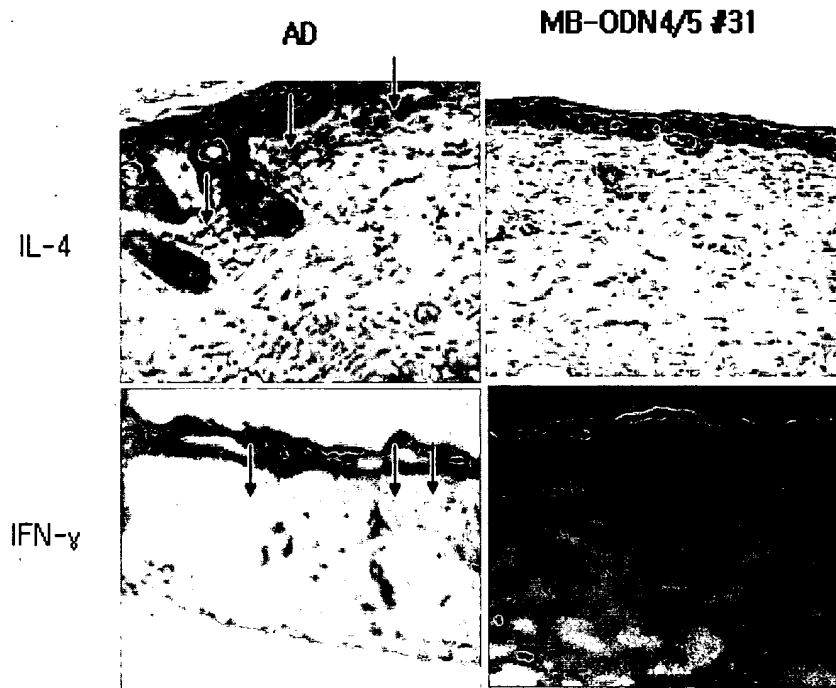
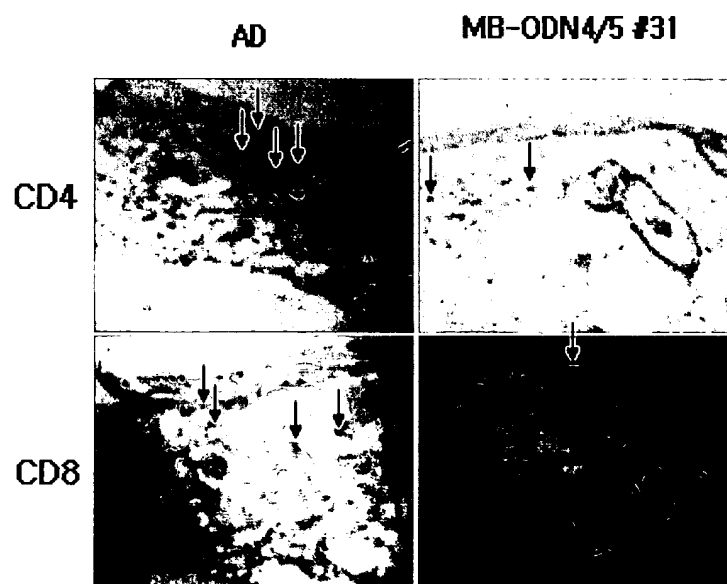


FIG. 14



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FIG. 15

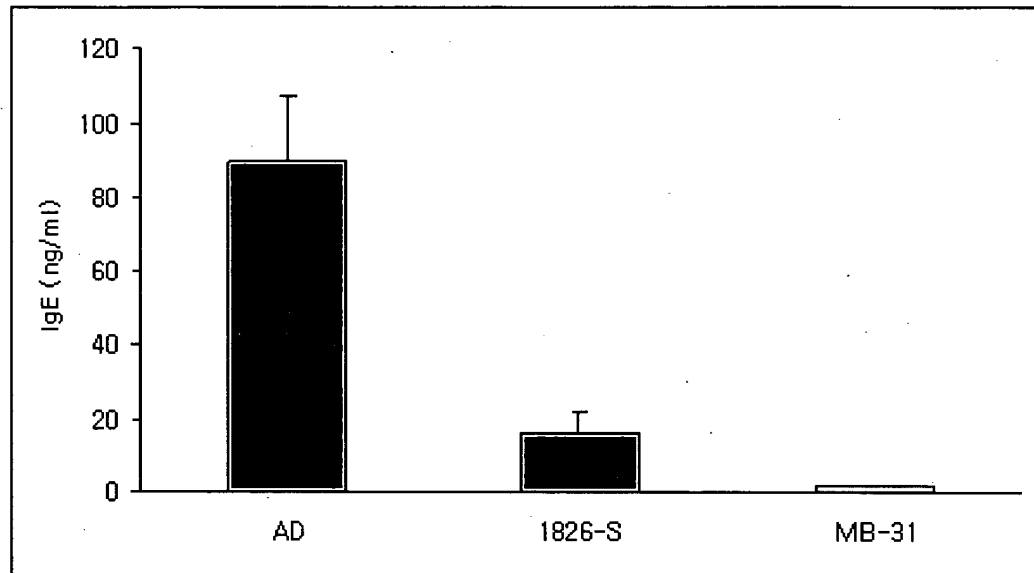


FIG. 16

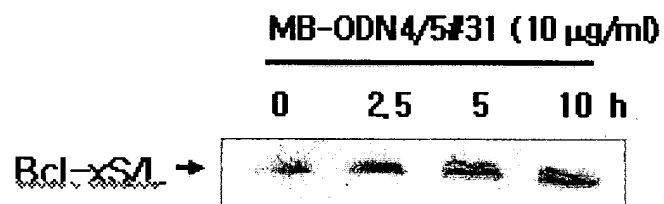


FIG. 17

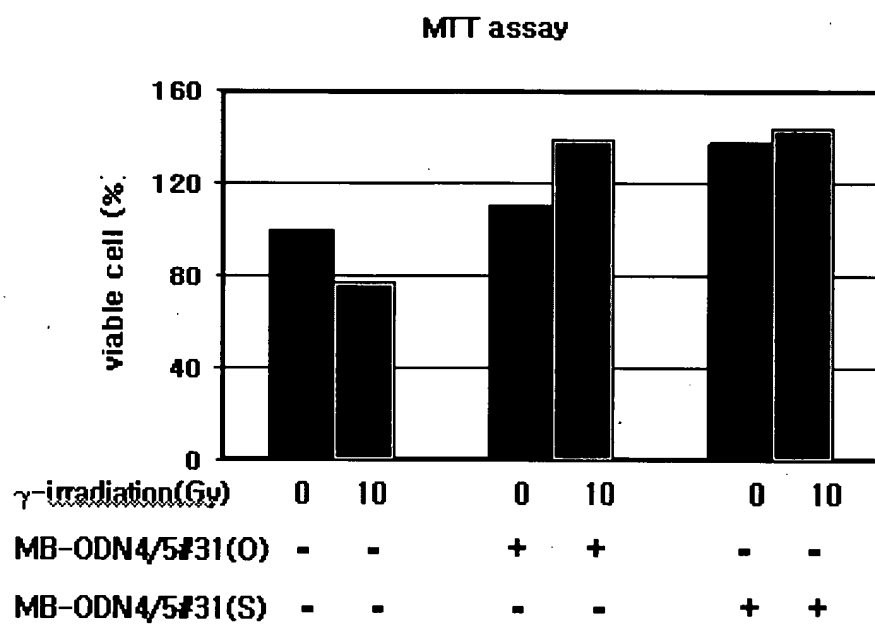
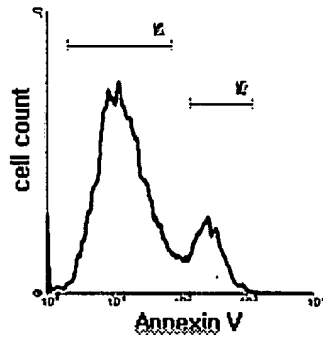
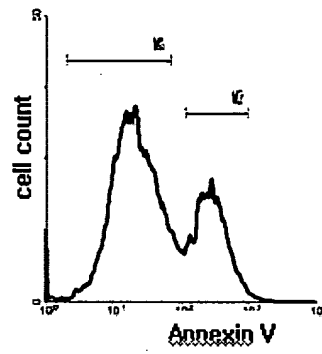


FIG. 18

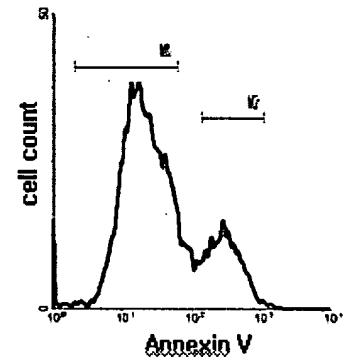
A) Control, 0 Gy



B) Control, 10 Gy



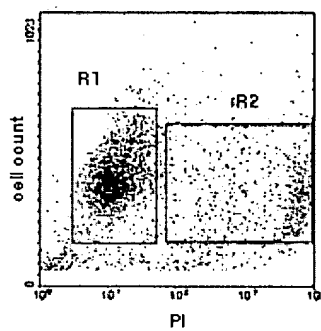
C) MB-ODN4/5#31(S), 10Gy



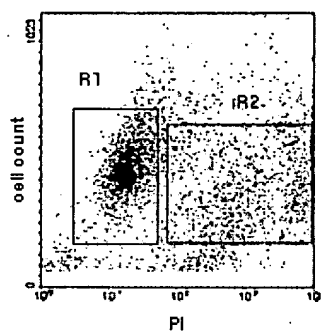
| Fig. | $\gamma$ -irradiation | MB-ODN<br>4/5 #31(S) | Marker | %Total |
|------|-----------------------|----------------------|--------|--------|
| A    | 0 Gy                  | (-)                  | M1     | 73.54  |
|      |                       |                      | M2     | 16.709 |
| B    | 10 Gy                 | (-)                  | M1     | 58.82  |
|      |                       |                      | M2     | 27.24  |
| C    | 10 Gy                 | (+) )                | M1     | 65.25  |
|      |                       |                      | M2     | 18.71  |

FIG. 19

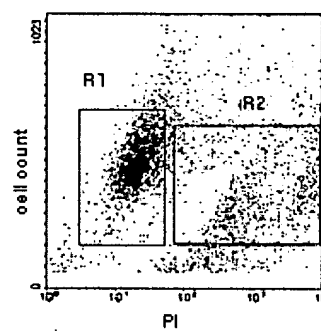
A) Control, 0 Gy



B) Control, 10 Gy



C) MB-ODN4/5#31(S), 10Gy



| Fig. | $\gamma$ - irradiation | MB-ODN 4/5 #31(s) | Region | %Total |
|------|------------------------|-------------------|--------|--------|
| A    | 0 Gy                   | (-)               | R1     | 73,30  |
|      |                        |                   | R2     | 16,32  |
| B    | 10 Gy                  | (-)               | R1     | 58,93  |
|      |                        |                   | R2     | 25,33  |
| C    | 10 Gy                  | (+) )             | R1     | 62,82  |
|      |                        |                   | R2     | 20,92  |